C-130 IMPEX / INTEX-B Flight summary

date: 17 April 2006 (20060417)

Take-off: 14:06 GMT
Landing: 22:50 GMT

Objectives:
- transit to Seattle to begin IMPEX / INTEX-B
- comparison flight with NASA DC-8 over Central Valley, CA and southern Oregon

Instrument status:
- The instruments generally performed well. A few problems surfaced with a few instruments.

Flight summary.

The air encountered during flight was generally clean. A cloud layer, sometimes continuous, sometimes broken, was beneath the C130 for most of the flight. From roughly 1600 and 1700 GMT, the C130 sampled stratospheric air. Ozone usually exceeded 150 ppb, with a peak at 300 ppbv, CO was 50 ppbv or below, and NO_y was above 1 ppbv, and CN was low. Variations in O_3 and NO_y were well correlated.

The comparison between the C130 and DC8 was delayed due to a variety of issues, including clouds at 8 kft and below and Air Traffic Control constrains. As a result, the first low leg of the comparison was scrubbed because the two aircraft came into formation flying at 18:04 GMT, near the point where the aircraft were to ascend to 12 kft. The first leg was conducted for 15 minutes at 11.5 kft; the second leg was conducted for 15 minutes at 20 kft. While some atmospheric constituents displayed some variability, others were fairly constant. The comparison ended at 18:48 GMT. The aircraft were within a few hundred meters during the entire comparison.

The C130 proceeded to Seattle at about 20 kft. The *in situ* instruments and SABL indicated that the air was clean from the cloud deck below to well above the C130.

Within 15 minutes of landing, the C130 was directed into a holding pattern at 5 kft just to the northwest of Paine Field. The C130 continued in this pattern for 45 minutes while Vice President Cheney boarded Air Force 2, which was parked at Paine Field, and Air Force 2 took off and flew away. During this time, the C130 sampled puffs of pollutions. When finally cleared for descent, the C130 sampled Seattle pollution below 3.5 kft.